

Nevtec
33 Airport Rd
Newport, VT 05855
802-334-7800

November 1, 2016

Garry Bowcott
Local 188 Restaurant Group
685 Congress Street
Portland, ME 04101

Re: Kitchen hood ventilation system

Enclosed are drawings and specifications for the proposed 8'x8' kitchen hood ventilation system. To include the following:

1. Drawing KV-1 - plan view
2. Drawing KV-2 - section
3. Drawing KV-3 - front section
4. Drawing KV-4 - roof plan view
5. Drawing KV-5 - equipment plan
6. Electrical specifications (2 pages)
7. Chase construction detail
8. 8'x8' kitchen hood detail
9. Operating and maintenance instructions (2 pages)

Note the following work to be done by others:

1. Electrical - see specifications.
2. Site preparation for the kitchen hood system:
 - a. Provide fire rated ceiling panels in the grid ceiling above the hood location.
 - b. Cut and frame opening for the 36"x36" roof curb. Install and seal new roof curb.
 - c. Provide a fire rated chase construction from the suspended ceiling to the roof curb.
 - d. After the hood is installed, provide and install 5/8 fire code sheet rock around the exposed perimeter of the hood. The enclosure will extend from the bottom of the hood to the grid ceiling above. Nevtec will provide the framing.

3. Fire suppression system - to be installed after the hood is in place. The fire suppression installer typically will furnish the gas shut-off valve, if required. The gas valve would be installed by the gas company or plumber.

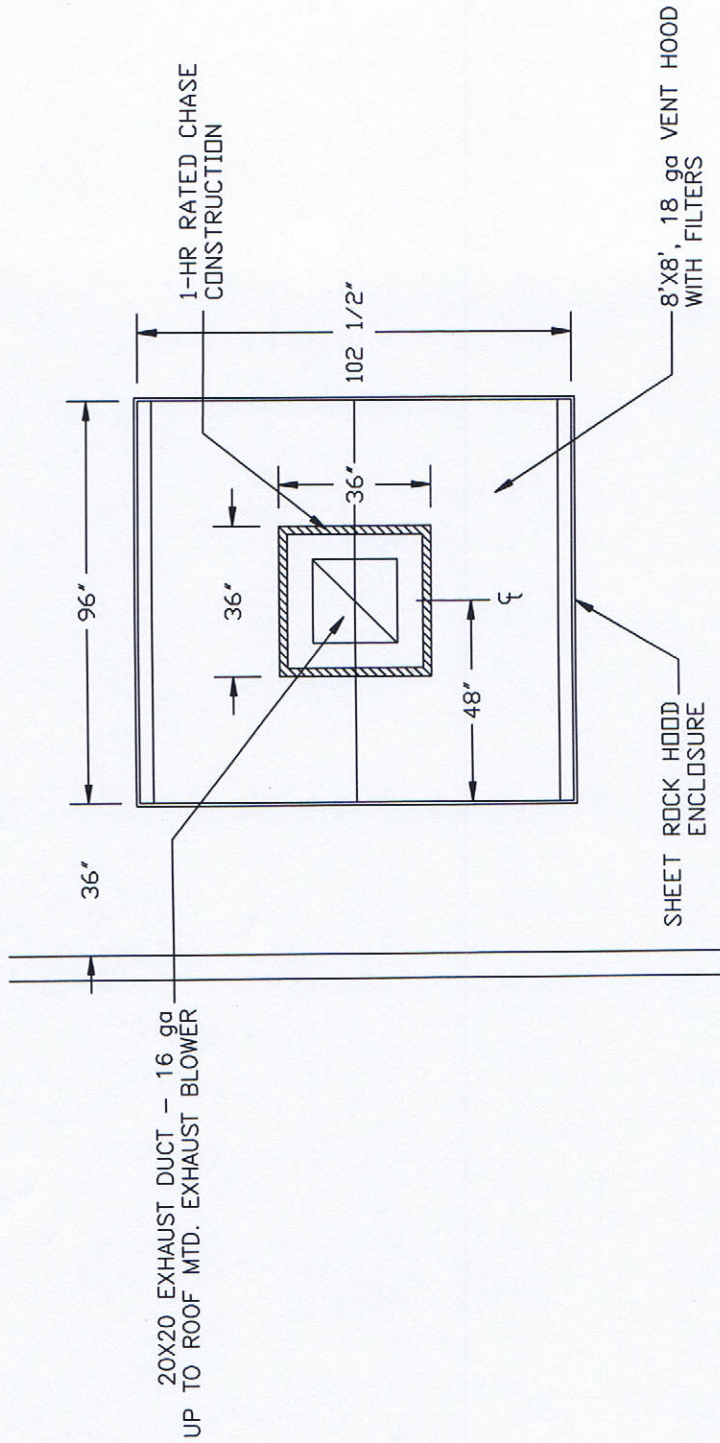
Plans to be submitted to the Portland Department of Permitting and Inspections for the permit as required. The Fire Suppression system will need to have a separate permit.

The 36"x36" roof curb will be delivered to the site.

Please call if you have any questions.

Sincerely,

Rod Davis



NOTES:

1. AN APPROVED FIRE SUPPRESSION SYSTEM TO BE INSTALLED. TWO NFPA HOODS.
2. 4 - NFPA APPROVED LIGHTS TO BE INCLUDED WITH HOOD.

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PORTLAND, ME

SCALE 1/4" = 1'-0" DATE 10-14-16 DRAWN BY RDD

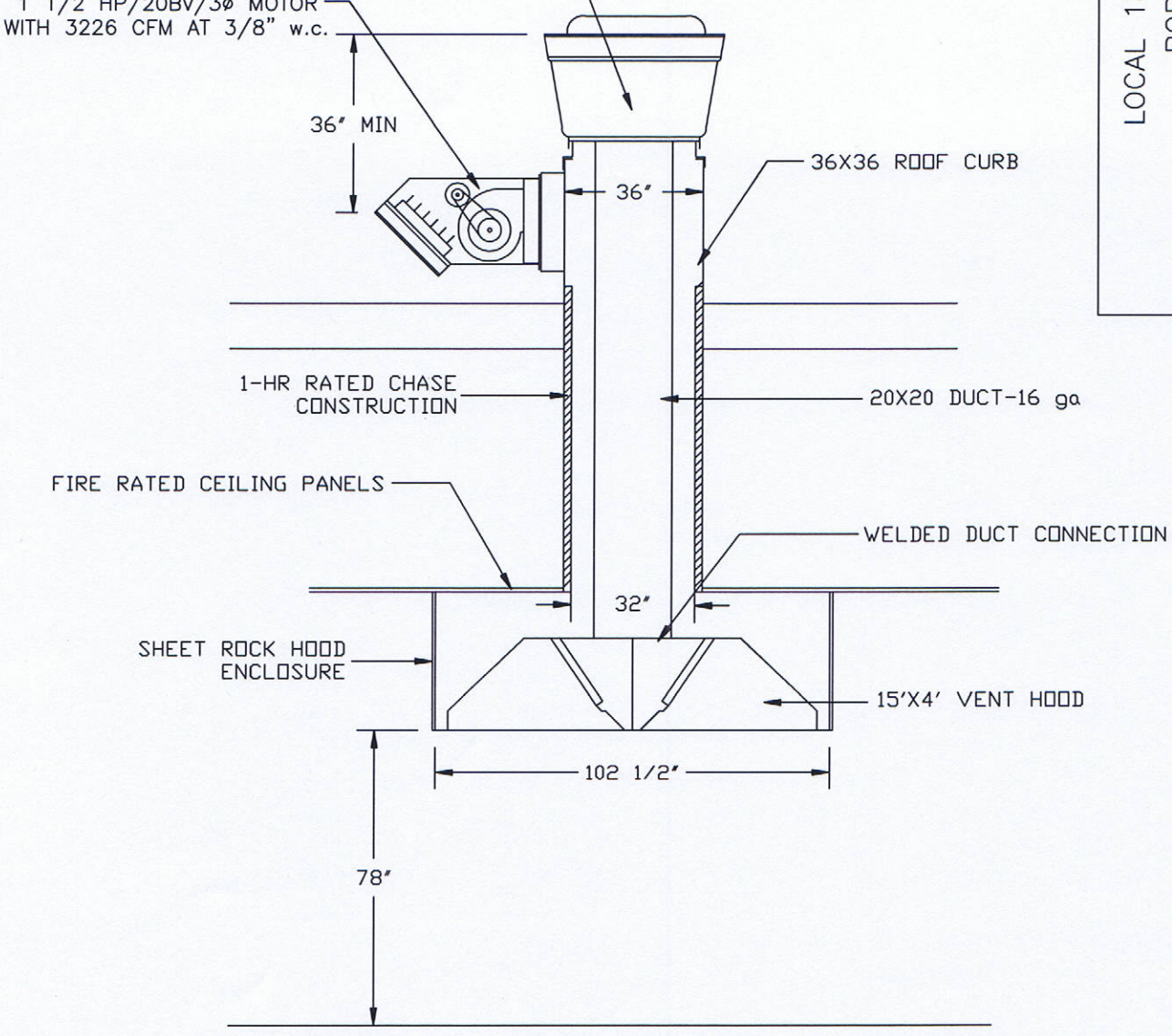
KITCHEN HOOD VENTILATION SYSTEM
PLAN VIEW

DRAWING NUMBER

KV-1

POWERED MAKE-UP INTAKE
1 1/2 HP/20BV/3Ø MOTOR
WITH 3226 CFM AT 3/8" w.c.

BELT-DRIVE EXHAUST BLOWER
2 HP/20BV/3Ø MOTOR WITH 5376
CFM AT 3/4" w.c. UL LISTED



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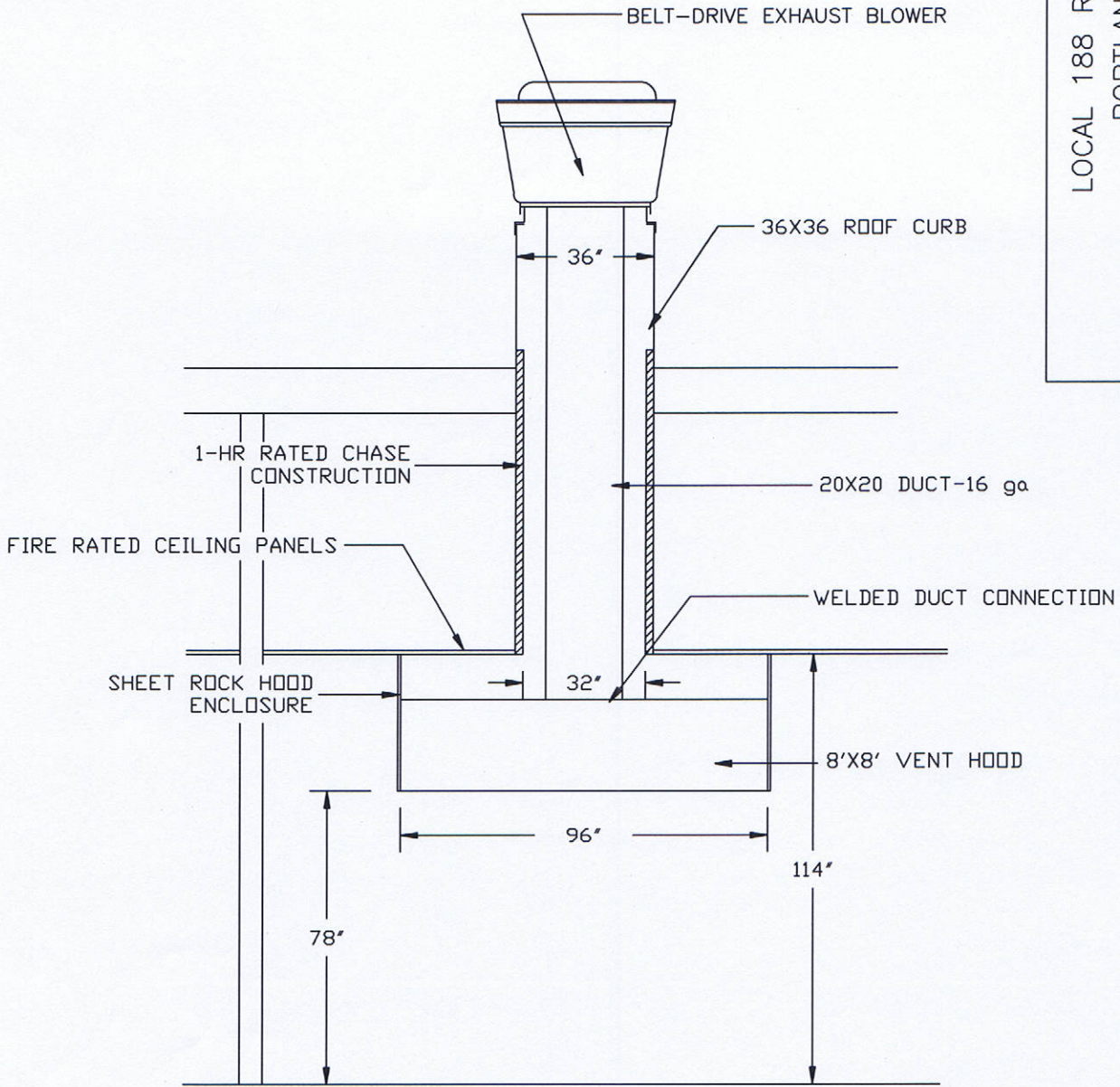
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KITCHEN HOOD VENTILATION SYSTEM
SECTION

DRAWING NUMBER
KV-2



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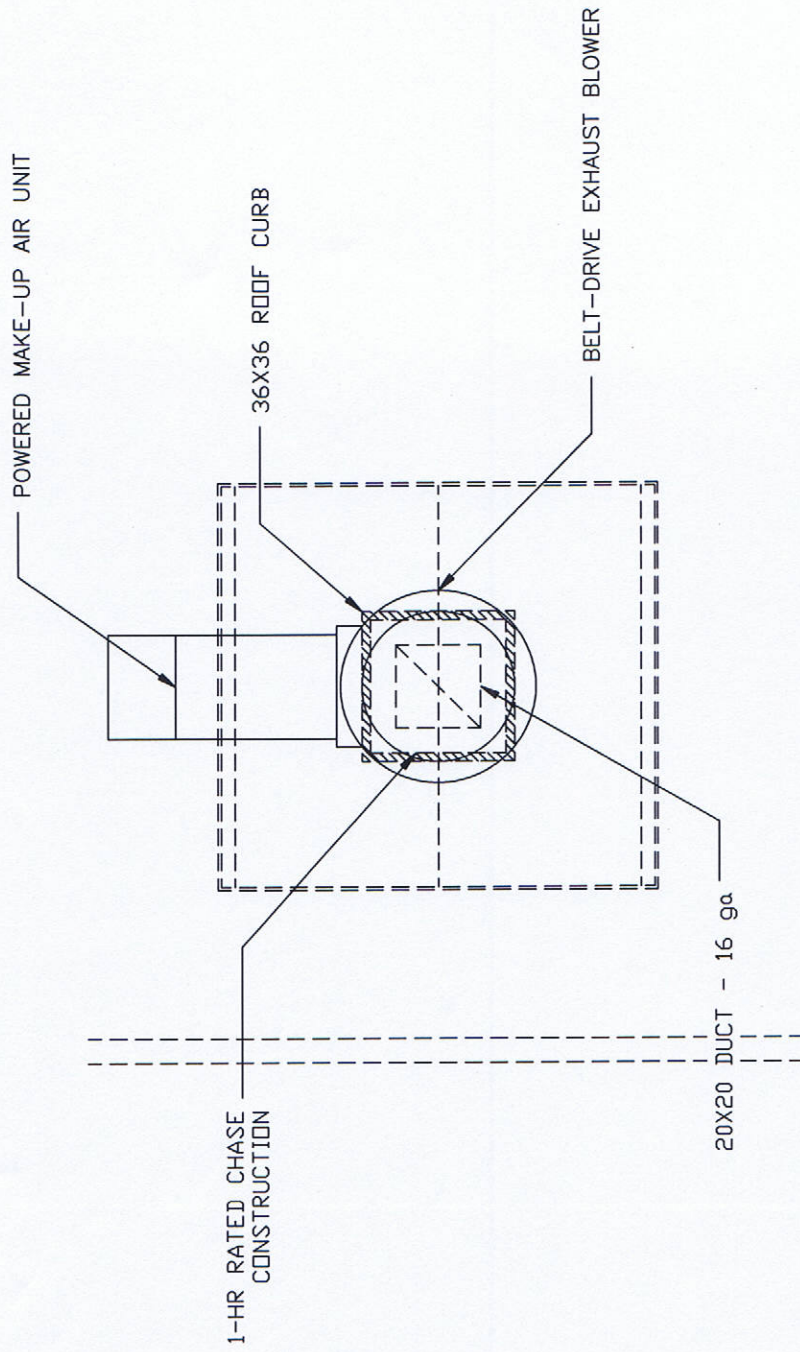
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KITCHEN HOOD VENTILATION SYSTEM
 FRONT SECTION

DRAWING NUMBER
 KV-3



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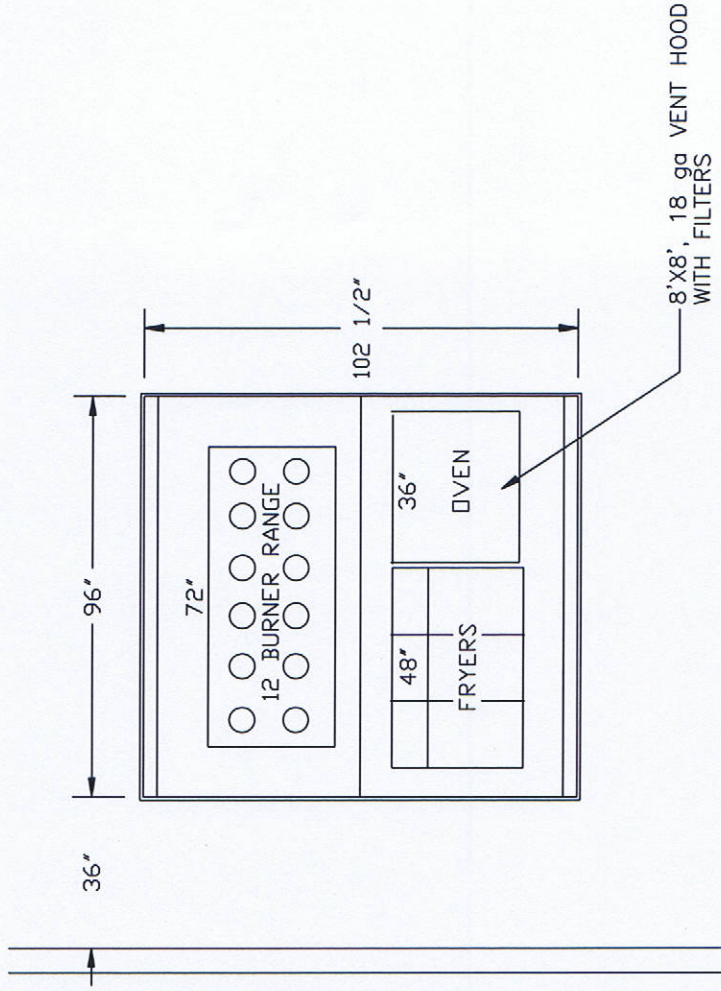
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KITCHEN HOOD VENTILATION SYSTEM
 ROOF PLAN VIEW

DRAWING NUMBER
 KV-4



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SCALE 1/4" = 1'-0" DATE 10-14-16 DRAWN BY RDD

KITCHEN HOOD VENTILATION SYSTEM
 EQUIPMENT PLAN

DRAWING NUMBER
 KV-5

Nevtec
33 Airport Rd
Newport, VT 05855
802-334-7800

October 14, 2016

Garry Bowcott
Local 188 Restaurant Group
685 Congress Street
Portland, ME 04101

Re: Kitchen hood ventilation

Electrical Specifications

8'x8' Hood

<u>Exhaust Blower</u>	2 HP/208V/3 phase motor 5.9 FLA.
<u>Supply Blower</u>	1 1/2 HP/208V/3 phase motor 4.6 FLA.

Notes:

1. Two AC inverters (variable frequency drives) will be furnished (by Nevtec) to control the exhaust and make-up air blowers for variable speed operation (see attached).

Input: 1 or 3 phase, 200-230V, 50-60Hz
Output: 3 phase, 3-wire, 200-230V

2. Provide wiring connections to the exhaust blower and make-up air unit. Each motor is pre-wired to an external weatherproof box, located on the exterior of each blower housing. A service switch is provided at each blower. All other electrical materials required are to be furnished by the electrical contractor.
3. The hood will have a total of 4 lights, which will need to be wired. Conduit is run between the junction boxes of the light fixtures. Switch for the hood lights to be supplied by the electrical contractor.
4. Wire the supply blower to shut down upon activation of the fire suppression system. Exhaust blower to continue operating.

Please call if you have any questions regarding the electrical specifications.

Rod Davis

Variable Frequency Drive (VFD) Installation Instructions

Input AC Power

1. Circuit breakers feeding the VFDs are recommended to be thermal-magnetic and fast acting. They should be sized as 1.5 times the input amperage of the drive. Refer to the table below.
2. Each VFD should be fed by its own breaker. If multiple VFDs are to be combined on the same breaker, each drive should have its own protection measure (fuses or miniature circuit breaker) downstream from the breaker.
3. Input AC line wires should be run in conduit from the breaker panel to the drives. AC input power to multiple VFDs can be run in a single conduit if needed.
4. The VFD should be grounded on the terminal marked PE.

STOP!

DO NOT connect incoming AC power to output terminals U,V,W. Severe damage to the drive will result.

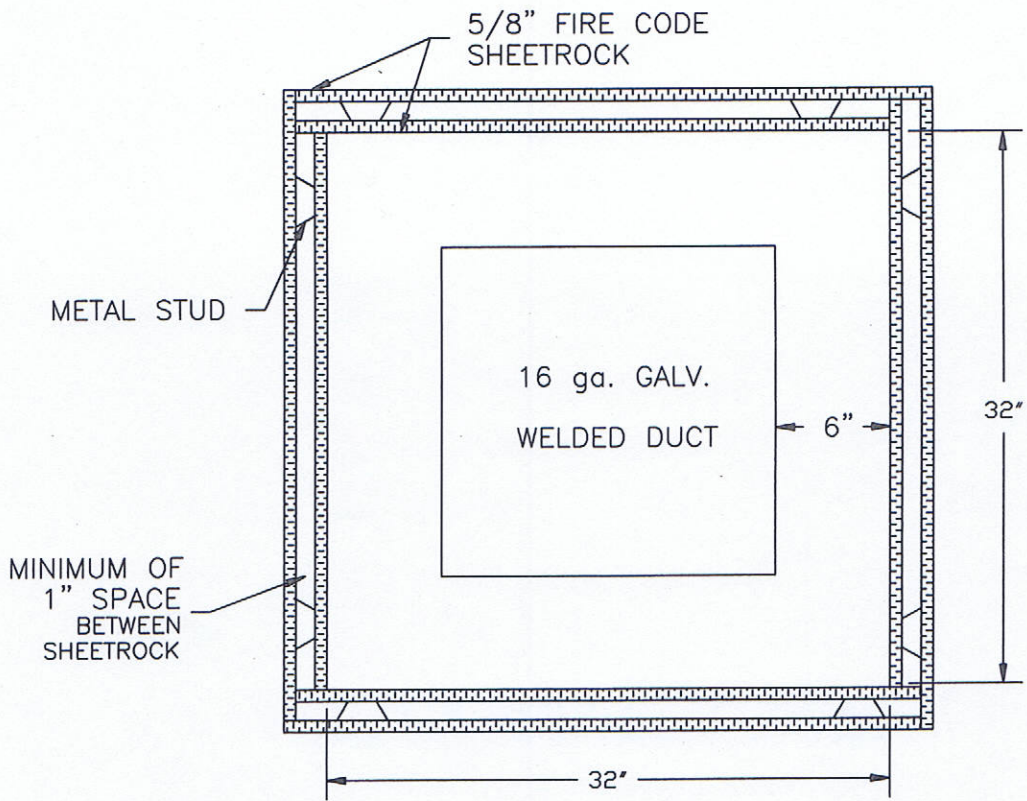
Output Power

1. Motor wires from each VFD to its respective motor **MUST** be run in a separate steel conduit away from control wiring and incoming AC power wiring to avoid noise and crosstalk between drives.
2. If the distance between the VFD and the motor exceeds 300 FT, an output reactor should be used between the VFD and the motor. The output reactor should be sized accordingly.
3. If the distance between the VFD and the motor is between 500 and 1000 FT, a dV/dT filter should be used.
4. No contactor should be installed between the drive and the motor. Operating such a device while the drive is running can potentially cause damage to the power components of the drive.
5. When a disconnect switch is installed between the drive and motor, it should only be operated when the drive is in a STOP state.

For more information, refer to the VFD operating instructions that came with the VFD.

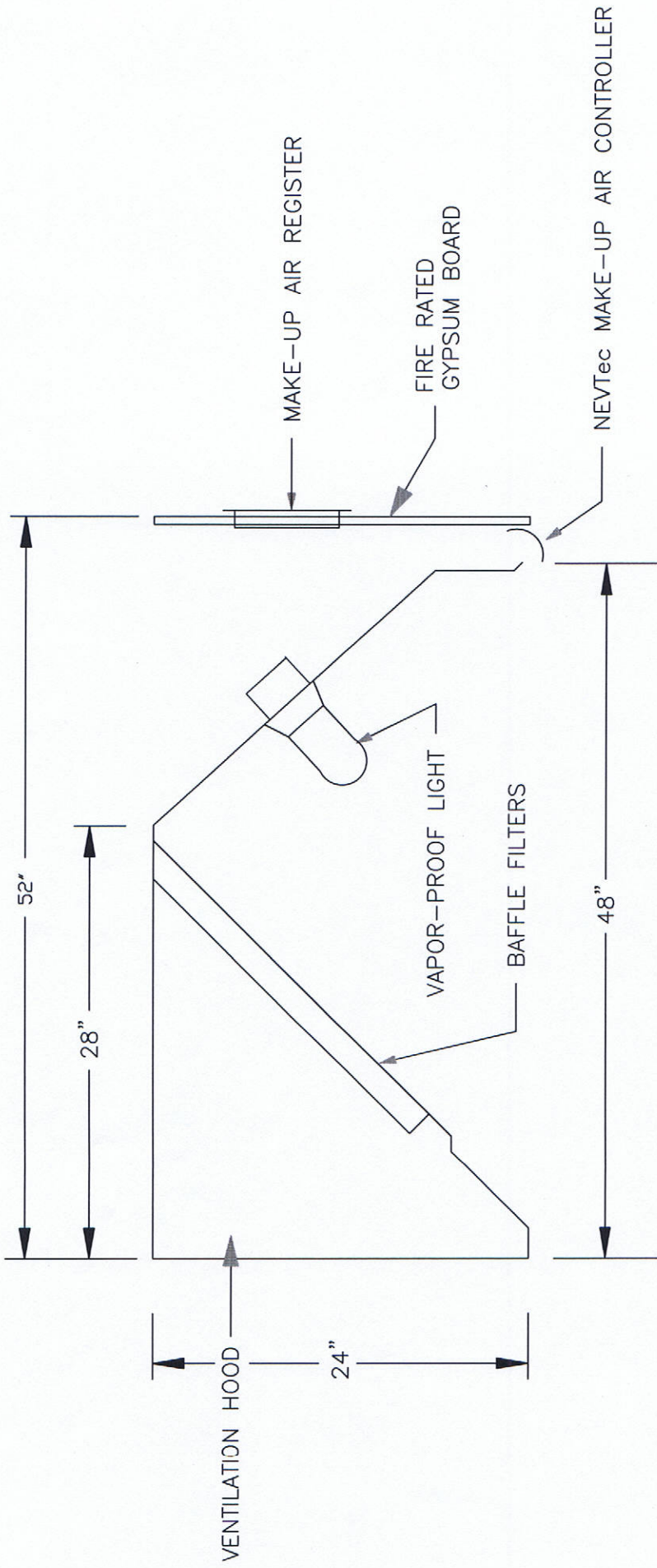
ACTECH SMV VFD CROSS-REFERENCE TABLE

M/N	Volts	1Ø Input	3Ø Input	HP	Input Amps 1Ø 120VAC	Input Amps 1Ø 240VAC	Output Amps	KVA	Breaker 1Ø 120VAC	Breaker 1Ø 240VAC
ESV251N01SXB531	120/240V	X		0.33	6.8	3.4	1.7	0.816	15	15
ESV371N01SXB531	120/240V	X		0.5	9.2	4.6	2.4	1.104	15	15
ESV751N01SXB531	120/240V	X		1	16.6	8.3	4.2	1.992	25	15
ESV112N01SXB531	120/240V	X		1.5	20	10	6	2.4	30	20
					Input Amps 1Ø	input Amps 3Ø			Breaker 1Ø	Breaker 3Ø
ESV371N02YXB531	240V	X	X	0.5	5.1	2.9	2.4	1.20	15	15
ESV751N02YXB531	240V	X	X	1	8.8	5	4.2	2.08	15	15
ESV112N02YXB531	240V	X	X	1.5	12	6.9	6	2.88	20	15
ESV152N02YXB531	240V	X	X	2	13.3	8.1	7	3.36	25	15
ESV222N02YXB531	240V	X	X	3	17.1	10.8	9.6	4.48	30	20



1-HR FIRE RATED CHASE CONSTRUCTION DETAIL

The above sketch shows a cross section of an NFPA 96 complying chase. This is required when exhaust duct travels through any interior space other than the cooking area being ventilated.



1. 2 - 8'x48", 18 ga. GALVANIZED STEEL VENTILATION HOOD.
2. ACCESSORIES INCLUDE (4) UL RATED VAPOR PROOF LIGHTS, (12) 20X16 GALV FILTERS, AND ENCLOSED GREASE CONTAINERS.
3. FILTER SYSTEM IS COMPLETELY REMOVABLE FOR CLEANING.
4. EXTERNAL SEAMS AND JOINTS HAVE A LIQUID TIGHT, CONTINUOUS WELD.
5. HOODS BUILT TO NFPA 96 AND UL STANDARDS.
6. UL LISTED GREASE FILTERS INSTALLED AT A 45° ANGLE.
7. HOODS TO BE MOUNTED IN AN ISLAND CONFIGURATION.

LOCAL 188 RESTAURANT
 PORTLAND, ME

SCALE NOT TO SCALE DATE 9-28-16 DRAWN BY RDD

KITCHEN VENTILATION HOOD DETAIL
 - SECTION, WALL CANOPY

DRAWING NUMBER
 ENG\HOOD-DTL



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